

Notice of Allowability

Application No.

10/651,849

Examiner

Linh M. Nguyen

Applicant(s)

HENRY, PAUL M.

Art Unit

2816

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to RCE filed 06/21/06.
2. ☒ The allowed claim(s) is/are 1-17 and 19-23.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|--|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input checked="" type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date <u>08/02/06</u> . |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____. |

DETAILED ACTION

RCE acknowledgement/ Prosecution reopened

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after allowance or after a final office action or after an Office action under *Ex Parte Quayle*, 25 USPQ 74, 453 O.G. 213 (Comm'r Pat. 1935). Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, prosecution in this application has been reopened pursuant to 37 CFR 1.114. Applicant's submission filed on 06/21/2006 has been entered.

Examiner's Amendment

2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it must be submitted no later than the payment of the issue fee.

3. Authorization for this examiner's amendment was given in a telephone interview with Applicant's representative, Brett Hertzberg, on 08/02/2006.

The Examiner's Amendment includes:

CLAIMS:

Claim 10, line 19, insert --;-- after "node";

Claim 14, line 12, change "an eight" to --a first--;

change "ninth" to --second--;

line 13, change "eighth" to --first--;

change "tenth" to --third--;

line 14, change "tenth" to --third--;

line 15, change "ninth" to --second--;

line 16, change "ninth" to --second--;

change "tenth" to --third--;

Claim 15, last paragraph, line 3, change "-second" to --second--;

Claim 18 - **canceled**;

Claim 19, line 1, change "18" to --15--;

Claim 20, line 19, change "a" (in front of "non-selected") to --the--.

Allowable Subject Matter

4. Claims 1-17 and 19-23 are allowed.

Reasons for Allowance

5. The following is an examiner's statement of reasons for allowance:

The closest prior art fails to disclose or fairly suggest:

a) An apparatus, in which the band-gap core circuit comprises: a first bipolar junction transistor that is arranged in a common-base configuration with a second bipolar junction transistor, and a resistor that is coupled to the second bipolar junction transistor, wherein the first bipolar junction transistor has a first base-emitter voltage given as V_{BE1} , the second bipolar junction transistor has a second base-emitter voltage given as V_{BE2} , and a voltage across the resistor is given as ΔV_{BE} , wherein the first stage circuit, the second stage circuit, and the feedback circuit are arranged for closed-loop operation with the band-gap core circuit such that $V_{BE1} = V_{BE2} + \Delta V_{BE}$, in combination with the remaining claimed limitations, as called for in independent claims 1, 15, 22 and 23;

b) An apparatus, in which the trans-conductance cell comprises a differential pair circuit that is coupled to a *current mirror circuit*, wherein the differential pair circuit is arranged to receive a differential signal from a first node and a second node, and provide at least a portion of the intermediate signal to the common node in response to the differential signal, in combination with the remaining claimed limitations, as called for in independent claim 5;

c) An apparatus, in which a fifth transistor is arranged to operate as a current source that is coupled to the seventh node, as called for in claim 10;

d) An apparatus, in which the band-gap core circuit comprises: a first transistor that is coupled between a power supply node and a first node, a second transistor that is coupled between the power supply node and a second node, a first resistor that is coupled between the first node and a third node, a second resistor that is coupled between the third node and the output node, and a third resistor that is coupled between the second node and the output node, wherein the feedback signal is associated with at least one of the second node and the third node, in combination with the remaining claimed limitations, as called for in independent claim 14;

e) A method including the steps of controlling the non-selected amplifier circuits with the feedback signal for closed-loop operation with the band-gap core circuit such that $V_{BE1} = V_{BE2} + \Delta V_{BE}$; and maintaining the non-selected amplifier circuits such that the offset voltage associated with the reference signal is zeroed as an average, in combination with the remaining claimed limitations, as called for in independent claim 20, and

f) An apparatus, which includes three amplifiers and three offset adjustment circuit, in combination with the remaining claimed limitations, as called for in independent claim 21.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Inquiry

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Linh M. Nguyen whose telephone number is (571) 272-1749. The examiner can normally be reached on Alternate Fri, Monday - Thursday from 7:00 to 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy P. Callahan can be reached on (571) 272-1740. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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LMN

